the skin, which I was first inclined to ascribe to a secretion of the cutaneous glands.

This curious modification of the posterior bristles has an evident relation to the habits of these creatures. All observers, from the time of Gilbert White onwards, have noticed that earthworms constantly, at night and in wet weather, lie outside their burrows with only the extreme end of the body fixed in the hole; when alarmed they dart back with great rapidity. Now it is quite clear that this movement depends upon the fact that the bristles at the posterior end hold that part of the body firm while the anterior part is being retracted. Probably the alternate arrangement of the bristles in *Urochæta* and in the Bermuda worm (which is a close ally of *Urochæta*, if not a species of the same genus) are useful to the worm in performing such rapid movements, inasmuch as they permit of a firmer hold of the ground. When these bristles become strong hooks, as in the Bermuda worm, the stability of the hinder end of the body must be enormously increased.

I have, however, no information as to the habits of these worms, so that I can only suggest a possible explanation of the presence of these remarkable hooks.

FRANK E. BEDDARD.

NOTES.

OUR readers will be glad to hear of the safety of Prof. A. C. Haddon, of the Royal College of Science, Dublin, who recently started for Torres Straits. He writes, under date September 9, reporting himself in good health, and well pleased with both the climate and his reception. If he is carrying out his original programme, he should be now busy among the islands in the middle of the Great Barrier Reef to the west side of the straits. His captures already embrace several new Actiniæ and some probably new Nudibranchs; and he is also at work upon the habits and placentation of the Dugong. He is much interested in the natives, and struck by the alarming rapidity of their decrease and modification. They are fast dying out, and their customs with them, and the information to be obtained from the younger men concerning the doings of their forefathers is so unsatisfactory that Prof. Haddon is losing no opportunity of studying the anthropology of the islanders and of collecting material in illustration thereof.

IT is understood that Prof. Giard is about to be appointed immediately to the new Professorship of Évolution des Êtres Organisés in the Sorbonne. His lectures will begin this month, and the first course will deal with embryological phenomena in relation to the Darwinian theory.

La Nature (October 20) prints an interesting article, by Dr. Camille Viguier, on the Zoological Station at the town of Algiers, the only institution of the kind which has yet been established on the southern coast of the Mediterranean. Eight years ago, when schools of law, science, and literature were formed at Algiers, Dr. Viguier resigned an educational office he held in France, in order to associate himself with the new Algerian schools, in the hope that he might be permitted to create a marine laboratory. This hope has been fulfilled, and, although the site has some disadvantages, he is, upon the whole, satisfied with the opportunities of research which have been provided for him. He calls especial attention to the fact that it is not necessary for naturalists to go to Algiers to profit by the institution. Those who write to him will receive, as soon as circumstances permit, and prepared in accordance with their directions, any animals that can be procured at Algiers.

THE Trustees of the British Museum have appointed Mr. Alfred Barton Rendle, late Assistant Demonstrator of Botany, Cambridge, an assistant in the Department of Botany at the Natural History Museum, in the vacancy occasioned by Mr. H. N. Ridley's taking the office of Director of the Botanical Gardens at Singapore.

MR. H. BURY, who has recently been elected to a Natural Science Fellowship at Trinity College, Cambridge, began the study of biology at Eton, and obtained a First Class in the Natural Science Tripos of 1885 (Part I.), having previously gained a Foundation Scholarship at Trinity College. He spent the winter of 1886–87 at the Naples Zoological Station, and the results of his work, which has added much to our knowledge of the development of Comatula, have been recently published in the Philosophical Transactions, with five illustrative plates. He returned to Naples at the beginning of the present year to study the larvæ of other Echinoderms, and his observations will be published in an early number of the *Quarterly Journal of Microscopical Science*.

THE Princess Louise will open the Durham College of Science, Newcastle, on Monday next, November 5, at 12 o'clock.

IT is reported from India that Mr. Griesbach, the geologist of the Indian Survey, sent for a time to Afghanistan at the request of the Ameer, has been compelled by the rebellion of Ishak Khan to postpone his geological exploration north of the Hindu Kush, and to remain at Cabul.

ACCORDING to *Allen's Indian Mail*, it is the intention of the Government of India to utilize the services of Mr. J. Duthie. Hitherto that gentleman has confined his botanical researches to Northern India, but it is now proposed that his sphere shall include not only the whole country but also regions beyond the Indian frontier. Accordingly he was sent with the Black Mountain Expedition.

THE British Consul at Costa Rica, in the course of his last annual report, states that a National Museum has been established at San José, and several valuable collections of Indian relics, birds, insects, plants, &c., have been presented or purchased. It is intended that in course of time it shall contain specimens of all the natural products of the country. A national publication and exchange office has also been opened, and all countries are invited to exchange periodicals and publications with Costa Rica.

ACCORDING to a Reuter's telegram from New York, dated October 29, two slight shocks of earthquake had occurred at New Bedford, Massachusetts.

IN the Report of the Committee of Council on Education in Scotland for the past year we find that while 1595 schools taught history and geography only fifty-nine took up elementary science. Strange to say, agriculture is not taught in any of the Scotch training colleges. In the secondary schools, what are called the University subjects—that is to say, Latin, Greek, and mathematics—are very well taught, particularly mathematics. The Technical Schools (Scotland) Act of 1887 has opened, says the Report, to School Boards a new field of operations in regard to a branch of education to which public attention has of late been very closely directed. Only very few schools appear to intend to take action under the Act, chiefly, no doubt, because the Boards are opposed to any increased expenditure. Technical instruction is already given in many of the higher schools. The Report recommends managers of schools in which it is proposed to give technical instruction to secure, if possible, the co-operation of local manufacturers, and to combine with other Boards as pointed out in the Act of 1887.

THE recent meeting of the Congress of American Physicians and Surgeons at Washington seems to have been a great success. It lasted three days, Dr. John Shaw Billings acting as President. *Science* considers that the meeting marked a new departure in national gatherings of American medical men. "It was a convention of specialists," says our American contemporary, "of men who have pursued their investigations, each in his own department, far beyond the point reached by the ordinary practising physician, even though his professional equipment be of the best. The papers that were read, therefore, presented the results of the most advanced scientific researches in the several departments, and the organization of the Congress is such as to insure in the future the maintenance of this high scientific standard. All opportunity for scheming medical politicians to gain prominence or office is carefully guarded against, and the only chance that any physician has to gain distinction through membership of the Congress is by presenting papers of such high order of excellence as to command the attention and secure the approval of the learned members of the medical profession to whom, as to the most competent critics, he submits his work."

AT one of the meetings of the Anatomical Society, during the session of the Medical Congress in Washington, Dr. Lamb, of the United States Army Medical Museum, spoke briefly of a singular phenomenon he had observed in his examination of human breast-bones. It was the occurrence, in a number of specimens, of an eighth rib, the cartilage that is usually found below the seventh rib being fully developed into a rib. Dr. Lamb first saw a specimen of this kind about ten years ago. While teaching, he had occasion to observe the subject he had before the class with great care, and was surprised on one occasion, on counting the ribs, to find that there were eight. He made no further investigation at the time, but recently he has given the subject more attention, and now he has in his own collection four specimens, while in the Army Medical Museum there are eight more. In all these cases the phenomenon occurs in Negroes, but one additional specimen is that of an Indian. *Science* says that Dr. Lamb has made a thorough search of anatomical literature for references to this peculiarity. In the English books there is only a single incidental reference to it, and in that case the author does not say that he has ever seen a specimen. In German books there are two references, one of them being the one already mentioned by the English authority. The French anatomists do not mention it at all; and only one American, Allen, makes any reference to it. Among the anatomists attending the Medical Congress. only two or three had seen specimens. Dr. Billings, in a circular he has sent out to anatomists and others, has requested that information on the subject be sent to the Army Medical Museum.

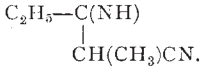
PART 4 of the Synchronous Weather Charts of the North Atlantic and the Adjacent Continents has been published by the Meteorological Council. It deals with the weather of each day from May 25 to September 3, 1883, and is the completion of the discussion undertaken for the thirteen months from August 1882, in connection with the international system of circumpolar meteorological observations. This last volume of the Atlantic Weather Charts is in every way equal in value to the previous parts issued, notices of which have been given in NATURE. Part 4 represents the weather of the summer season when the conditions over the Atlantic are necessarily quieter than they are in the winter. There is, however, much that is of general interest, and the broken weather so commonly experienced during an English summer is well pictured. Considerable play is shown in the behaviour of the high-pressure area usually situated in Mid-Atlantic, and the direct influence of its movement upon the weather over a very large area of both sea and land is very evident. At the beginning of June the high barometer holds a very central position, and extends across the Atlantic from coast to coast, the barometer reading as high as 30·6 inches. Several low-pressure areas are skirting to the northward, but they are pushed to a higher latitude than usual, and too far to the north to cause any serious disturbance of the weather in the neighbourhood of the British Islands. The high-pressure area, however, soon breaks up, and by June 7 there is no isobar over the Atlantic with a higher value than 30·2 inches, whilst the depressions embrace the whole area to the north of 40° N., and are more serious in character. These unsettled conditions continue till about June 20, when the high-pressure area regains its normal position; but there is somewhat similar play in the high-pressure system shown in July and August, although to a much less extent. The charts show a good instance of storm development in Mid-Atlantic on August 11, which ultimately caused a heavy gale in England on the 14th. A low-pressure area was also formed in 28° N. and 65° W. on August 20, which developed to a hurricane by the 22nd, and apparently reached our islands in a modified form on August 28. Good instances of the movement of depressions are also shown, some disturbances being traced across the Atlantic. An additional sheet is given containing the charts for September 1 to 3, in order to show the passage across the British Islands of a steep cyclonic system which was accompanied by severe gales. The depression apparently originated in 20° N. and 55° W. on August 21, and, after crossing the British Islands at the commencement of September, it passed over the North Sea, and subsequently disappeared.

THE First Annual Report of the Meteorological Society of Australasia, which was established chiefly by the labours of Mr. C. L. Wragge, shows that the Society is making good progress, and now numbers upwards of eighty subscribing members. There are twelve observing-stations established under the auspices of the Society, and it is proposed to establish others in Fiji and Norfolk Islands. The Council also propose to collect observations from ships, with the view of carrying out investigations similar to those undertaken by Dr. Meldrum at the Mauritius. Several papers of interest have been read by members during the past year, and an abstract of the climatological observations is published in the Proceedings of the Society.

TWO remarkable new polymers of methyl and ethyl cyanides, forming well-developed crystals, have been obtained in the laboratory of Prof. E. von Meyer at Leipzig. They possess percentage compositions precisely the same as those of CH_3CN and C_2H_5CN, but twice the molecular weight, and are therefore represented by the formulæ $C_4H_6N_2$ and $C_6H_{10}N_2$. The latter compound was obtained as follows. Metallic sodium, in small pieces, was rapidly added to a solution of ethyl cyanide in absolute ether. A brisk action very soon commenced with formation of a white pulverulent precipitate, and escape of gaseous ethane C_2H_6. After the cessation of frothing, the mixture was warmed upon a water-bath, and the precipitate afterwards separated by decantation, washed with ether, and thrown into water. Decomposition at once occurred, accompanied by the separation of an oil, which on standing solidified in magnificent tabular crystals. These were readily obtained pure by washing with cold water, in which they are but sparingly soluble, pressing between filter-paper, and drying in a desiccator. On analysis they were found to give the same numbers as ethyl cyanide. The latter compound, however, is a liquid boiling at 98° C., while the new substance is a solid melting at 47°-48°. It may be distilled without change, boiling at 257°-258°, 160° higher than ethyl cyanide. Vapour-density determinations show that it possesses twice the molecular weight of the latter compound, a result which was confirmed by determinations according to the new method of Raoult, described in these columns a short time ago. The cycle of chemical changes resulting in the production of this curious polymer have been fully worked out, and are briefly as follows. One atom of sodium appears to replace an atom of hydrogen in one molecule of C_2H_5CN, forming sodium cyan-ethyl, C_2H_4NaCN; a second atom of sodium at the same time seizes the CN of another molecule, leaving the C_2H_5 to combine with the displaced hydrogen to form ethane. Thus—

$$\begin{array}{cccc} \mathrm{Na} & \mathrm{C_2H_5CN} & & \mathrm{NaCN} + \mathrm{C_2H_5H} \\ + & & = & \\ \mathrm{Na} & \mathrm{C_2H_5CN} & & + \mathrm{C_2H_4NaCN}. \end{array}$$

The sodium cyan-ethyl then combines with a third molecule of C_2H_5CN to form the sodium derivative $C_6H_9NaN_2$ of the new polymer; this unstable compound is finally decomposed in contact with water, with formation of caustic soda and the new polymer itself. The constitution of this singular compound was conclusively proved to be—



$$\begin{array}{l} \mathrm{C_2H_5{-}C(NH)} \\ \qquad\quad | \\ \qquad\quad \mathrm{CH(CH_3)CN}. \end{array}$$

In a similar manner the methyl polymer was obtained by the action of sodium upon methyl cyanide, marsh-gas, CH_4, being evolved, and a white substance formed, which, on decomposition by water, yielded the polymer $C_4H_6N_2$ as an oil, eventually crystallizing in white needles melting at 52°–53° C.

THE British Consul at Barcelona, in a report to the Foreign Office on the agriculture of his district, says that a voracious caterpillar which made its appearance in myriads last year amongst the cork forests and stripped the trees completely of their foliage, is now attacked and devoured by another insect, a species of beetle, of a dark-green colour, and armed with a horn with which it cuts up the worms or caterpillars. Besides this deadly enemy, two others are at war with the caterpillar: a crab (*cangrejo*), and an insect, hitherto unknown, which destroys the bags containing the newly-laid eggs of the butterflies. There is very little doubt that the caterpillars will soon be completely exterminated.

A SCHOOL OF FORESTRY has been opened at Akhaltzik, in the Caucasian provinces. The scholars will be selected from the native forest-police actually in the service of the Russian Government. The increased demand made on the forest staff by the law which was passed last April, and which is in force in many districts since July, is the cause of the founding of this school. The officials hope that with an increased staff they will be able to check the devastation of Russian forests.

DR. A. JULIEN AND PROF. H. C. BOLTON have submitted to the New York Academy of Sciences a Report on the results of their researches on sonorous sands. They have collected samples from all parts of the world, and, on close examination, found that all sonorous sands are clean; that no dust or silt is found mixed with the sand; that the diameter of the angular or rounded grains ranges between 0·3 and 0·5 of a millimetre; and that the material may be siliceous, calcareous, or any other, provided its specific gravity is not very great. When these sands are moistened by rain or by the rising tide, and the moisture is evaporated, a film of condensed air is formed on the surface of each grain, which acts as an elastic cushion, and enables the sand to vibrate when disturbed. In sands mixed with silt or dust, these small particles prevent the formation of a continuous air-cushion, and therefore such sands are not sonorous, If this theory be correct, sonorous sand must become mute by the removal of the film of air. Experiments of the authors prove that by heating, rubbing, and shaking, the sand is "killed." All these operations tend to destroy the film of air condensed on the surfaces. On the other hand, samples of sonorous sand were exhibited which had been kept undisturbed for many years. They had retained their sonorousness, but, after having been rubbed for some time, became almost mute. The aim of the authors is now to make a sonorous sand.

MESSRS. A. C. MCCLURG AND CO., Chicago, have issued the fifth edition of "A Manual of the Vertebrate Animals of the Northern United States," by David Starr Jordan, President of the University of Indiana. The work has been wholly re-written, and the order of arrangement is reversed, the lowest forms being placed first.

WE have received the third edition of Mr. Milnes Marshall's well-known text-book "The Frog: an Introduction to Anatomy, Histology, and Embryology." The present edition, we are told in the preface, has been carefully revised, and an account of the development of the frog has been added.

MR. J. RUSSELL has put together a short account of the life and system of Pestalozzi. It is called "The Student's Pestalozzi," and is based on "L'Histoire de Pestalozzi," by Roger de Guimps. Messrs. Swan Sonnenschein and Co. are the publishers.

THE latest issue of the Proceedings and Transactions of the Nova Scotian Institute of Natural Science (vol. vii. Part 2) includes the following papers:—Glacial geology of Nova Scotia, by the Rev. D. Honeyman; list of Nova Scotian butterflies, by Arthur P. Silver; on the elementary treatment of the propagation of longitudinal waves, by Prof. J. G. Macgregor; Carboniferous flora, with attached spirorbes, by the Rev. D. Honeyman; fishes and fish development, by Harry Piers; Carboniferous of Cape Breton, by E. Gilpin, Jun.; Japanese magic mirror, by Harry Piers; museum meteorites, by the Rev. D. Honeyman; and Nova Scotian superficial geology, systematized and illustrated, by the Rev. D. Honeyman. There is also an appendix on birds of Nova Scotia, by Andrew Downs, edited by Harry Piers.

MESSRS. WILLIAM WESLEY AND SON have just issued No. 92 of their "Natural History and Scientific Book Circular," containing an important list of books on botany.

WE have received Mr. J. H. Steward's Catalogue (Part 5) of improved magic and dissolving-view lanterns and slides, with a complete catalogue of photographs for the magic lantern.

THE Calendar of the Huddersfield Technical School and Mechanics' Institute for the forty-eighth session, 1888–89, has been issued. From the report of the Governors for the session 1887–88 it appears that the institution has been making good progress "on every side." The buildings will soon have to be enlarged, and the Governors look forward to the hearty support and co-operation of the town and neighbourhood in this undertaking.

WE learn from *Science* that a manufacturing firm in New York has sent to the United States Department of Agriculture specimens of a new fibre they are making from the stalk of the cotton-plant. The samples received strongly resemble hemp, and seem to be adapted to all the uses hemp is put to. A few fibres of it twisted together in the hand show remarkable tensile strength, although no exact comparative tests with other fibres have yet been made. A collection of the fibres of hemp, flax, jute, ramie, &c., from all parts of the world is being made by the Department, and a new instrument has been invented by which it is expected that the tensile strength of each will be ascertained with great accuracy.

THE additions to the Zoological Society's Gardens during the past week include a Common Seal (*Phoca vitulina*) from British Seas, presented by Mr. Geo. Stevenson; a Tawny Owl (*Syrnium aluco*) from Ross-shire, presented by Mr. J. Weston; a Little Grebe (*Tachybaptes fluviatilis*), British, presented by Mr. Bibby; a Starred Tortoise (*Testudo stellata*) from Ceylon, presented by Mr. William Ford; an Alligator (*Alligator mississippiensis*) from Florida, presented by Mr. G. A. Ruck; a Puff Adder (*Vipera arietans*), an African Cobra (*Naia haje*) from North Africa, presented by Mr. Herbert E. White; a Macaque Monkey (*Macacus cynomolgus* ♂), a Larger Hill-Mynah (*Gracula inter-*

media) from India, three Red Deer (*Cervus elaphus* ♂ ♀ ♀), British, two White-tailed Gnus (*Connochætes gnu* ♂ ♀), bred in Holland; a Ruffed Lemur (*Lemur varius*) from Madagascar, deposited; a Red-crested Pochard (*Fuligula rufina* ♂) from India, purchased.

ASTRONOMICAL PHENOMENA FOR THE WEEK 1888 *NOVEMBER* 4-10.

(FOR the reckoning of time the civil day, commencing at Greenwich mean midnight, counting the hours on to 24, is here employed.)

At Greenwich on November 4

Sun rises, 7h. 2m.; souths, 11h. 43m. 40·9s.; sets, 16h. 26m.: right asc. on meridian, 14h. 40·3m.; decl. 15° 36′ S. Sidereal Time at Sunset, 19h. 23m.

Moon (New on November 4, 0h., and at First Quarter November 10, 16h.) rises, 7h. 13m.; souths, 12h. 18m.; sets, 17h. 12m.: right asc. on meridian, 15h. 14·5m.; decl. 13° 20′ S.

Planet.	Rises.		Souths.		Sets.		Right asc. and declination on meridian.				
	h.	m.	h.	m.	h.	m.	h.	m.	°	′	
Mercury..	6	16	11	15	16	14	14	11·2	12	29	S.
Venus ...	9	54	13	47	17	40	16	44·3	23	28	S.
Mars ...	12	0	15	43	19	26	18	40·0	24	41	S.
Jupiter ...	9	30	13	36	17	42	16	32·6	21	27	S.
Saturn ...	23	7*	6	34	14	1	9	29·6	15	45	N.
Uranus ...	4	47	10	15	15	43	13	11·7	6	57	S.
Neptune..	17	19*	1	4	8	49	3	58·7	18	46	N.

* Indicates that the rising is that of the preceding evening.

Occultation of Star by the Moon (visible at Greenwich).

Nov.	Star.	Mag.	Disap.		Reap.		Corresponding angles from vertex to right for inverted image.	
			h.	m.	h.	m.	°	°
6	B.A.C. 5954	6	18	13	18	57	75	348

Nov.	h.	
5	19	Jupiter in conjunction with and 3° 5′ south of the Moon.
6	3	Venus in conjunction with and 4° 28′ south of the Moon.
6	22	Mercury at least distance from the Sun.
8	0	Mars in conjunction with and 2° 35′ south of the Moon.
9	18	Mercury stationary.

Saturn, November 4.—Outer major axis of outer ring = 40″·7: outer minor axis of outer ring = 9″·7: southern surface visible.

Variable Stars.

Star.	R.A.		Decl.					h.	m.	
	h.	m.	°	′						
U Cephei	0	52·4	81	16	N.	Nov.	5,	1	49	*m*
						,,	10,	1	28	*m*
λ Tauri...	3	54·5	12	10	N.	,,	7,	2	23	*m*
T Monocerotis ...	6	19·2	7	9	N.	,,	6,	5	0	*m*
R Canis Majoris...	7	14·5	16	12	N.	,,	8,	23	42	*m*
						,,	10,	2	58	*m*
R Ursæ Majoris ...	10	36·7	69	22	N.	,,	7,			*M*
S Ophiuchi	16	27·8	16	55	S.	,,	9,			*M*
U Ophiuchi... ...	17	10·9	1	20	N.	,,	6,	18	58	*m*
W Sagittarii ...	17	57·9	29	35	S.	,,	7,	19	0	*m*
β Lyræ...	18	46·0	33	14	N.	,,	5,	2	0	*m*
S Vulpeculæ ...	19	43·8	27	1	N.	,,	8,			*M*
S Sagittæ	19	50·9	16	20	N.	,,	8,	19	0	*m*
T Vulpeculæ ...	20	46·7	27	50	N.	,,	8,	6	0	*m*
Y Cygni	20	47·6	34	14	N.	,,	4,	3	0	*m*
						,,	7,	3	0	*m*
W Cygni	21	31·8	44	53	N.	,,	10,			*m*
δ Cephei	22	25·0	57	51	N.	,,	9,	1	0	*M*

M signifies maximum; *m* minimum.

Meteor-Showers.

	R.A.	Decl.	
Near γ Camelopardalis...	54°	71° N.	Swift.
The *Taurids*	60	20 N.	Slow; bright.
	350	52 N.	Rather slow.

GEOGRAPHICAL NOTES.

IN some notes embodying the results of his own observations, contributed to the *Mittheilungen* of the Hamburg Geographical Society, Dr. H. Lindemann throws some light on the physical geography of the interior of Heligoland. He points out that the island is protected on the east from the action of the sea by a long and narrow sand-dune, about 1¼ mile distant. The gradual disappearance of this British possession, Dr. Lindemann points out, is but partly due to the action of the sea. This is especially the case with the western side, where the strength of the waves is much greater. The chief factors in wearing down the island are the heavy rainfall, the variations in the weather, and the dissolving power of the frost; all these causes effect the disintegration of the stones and the denudation of the land. The results can be seen better at work on the eastern side of the island, for the strata and the inclination of the Oberland are towards the north-east, and all the water consequently flows that way. The eastern side is largely planted with potatoes, and the gradual disappearance of these potato-fields gives us a tolerably good basis on which to calculate the sinking of this side of the island. There is now nothing remaining of a potato-field which only eighty years ago measured 80 metres, and another field, 25 metres broad, has been reduced within the same period to 3 metres. In old maps we find an ancient cemetery on the eastern side of the Oberland, which had to be removed to its present position. These causes, but, above all, the direction in which the strata lie, produce the different aspect of the eastern and western sides. The eastern cliff is mostly uniform and perpendicular; the western side offers a splendid and varied example of the invasive powers of the sea, with its many inlets, caverns, and chiselled pillars now separated from the main rock. From a comparison with the measurements taken in 1845, Lindemann finds that the western cliff had receded about 7 feet in the last forty years, or at the rate of about 2 inches a year. The Unterland was joined to the dune by a stone jetty, called the Waal, as recently as the seventeenth century. This Waal formed a kind of semicircular harbour, open on the north and south sides. If we take Geern's map, we find the place of the old northern harbour occupied then by green pastures and meadows. But this has all been swept away; the sea carried most of the jetty towards the Unterland and the dune. The destruction of the breakwater had the effect upon the mainland that the Unterland, against which the masses of stone were driven, was gradually so greatly increased that new rows of houses could be built upon the beach.

IT is stated that contracts have been entered into in America for the construction of two steamers intended for an expedition to the Antarctic regions, which is being organized by Mr. Henry Villard. The officers and scientific staff of the expedition will all be Americans and Germans, as the enterprise is stated to be in great part supported by Hamburg money. The expedition will start from New York, and its object will be mainly the exploration of the South Shetlands, South Orkneys, South Georgia, and the Poovel Islands. This expedition seems to be independent of that to be sent out by the German Government under the conduct of Dr. Neumayer.

MR. JOSEPH THOMSON has returned from Morocco in compliance with an urgent telegram from the British East African Company. Mr. Thomson will probably start immediately for Mombassa, and we have reason to believe will be intrusted with a very important mission to the interior.

PRELIMINARY NOTE ON THE ANATOMY AND PHYSIOLOGY OF PROTOPTERUS ANNECTENS.

Introduction.

OWING to the generosity of Prof. Wiedersheim, I have recently had the opportunity of making some observations on the structure and mode of life of *Protopterus*. Although I can at present only give a few brief notes on the subject, some points have already proved so interesting, that it has seemed worth while to give an abstract of my results up to the present time, leaving a detailed description until a later date.

I was fortunate enough to be present in Freiburg at the end of last June when a quantity of fresh material arrived. This was procured direct from the Gambia, owing, in the first instance, to